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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,348	01/26/2004	Toshihiko Takasaki	042050	7111

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EXAMINER

ZEMEL, IRINA SOPHIA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/763,348	Applicant(s) TAKASAKI ET AL.	
	Examiner Irina S. Zemel	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/26/04; 4/29/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1-13 are objected to because of the following informalities: Claims 1 and 2 recites the clause "general formula". While the claims are not per se indefinite, the recited term "general" does clearly not set forth the boundaries of the claimed invention. Appropriate correction is required.

In claim 4 applicants use the clause "the foregoing" in reciting previously cited components. It is suggested that applicants use more conventional terminology "said" in defining the previously recited components to simplify the claim. (This change is not mandatory, rather it is a suggested change to use more accepted language in the claim).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,204,365 to Saito et al., (hereinafter "Saito").

Saito discloses resins comprising polybenzoxazoles represented by the formulas (D) see column 2, formulas (F) –(L), see illustrative examples 1-5 and comparative examples 1 and 2, etc. All of these formulas fully correspond to the polybenzazoles claimed in claims 1 and 2, and compounds of formulas (G), (H), (I), (K) and (L)

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correspond to the claimed fluoro-containing benzoxazoles as per claims 3-5. Applicants should note that the resins claimed in claims 4 and 5 are claimed in the "product-by-process" format, and process for obtaining the claimed product is irrelevant to the patentability of the claimed product so long as the claimed product is identical to the product disclosed in the reference. In the instant case, the products disclosed in the above-mentioned illustrative examples are identical to the product claimed in claims 4 and 5. (Furthermore, the products disclosed, for example, in comparative examples 1 and 2 are obtained by the claimed process, as well).

The reference further explicitly discloses that n (or degree of polymerization or number of repeat units) is from 2 to 1000, which overlaps with the claimed range as per claim 7.

Therefore, the invention as claimed in claims 1-5 and 7 is fully anticipated by the Saito.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,492,996 to Dang et al., (hereinafter "Dang").

Dang discloses benzazole polymers represented by the formula in column 2, lines 41-48. Among suitable R linkages, linkages derived from hexafluoropropylene are explicitly listed on line 54 of column 2. Furthermore, the X atom is disclosed as either sulfur or oxygen, see line 49 in column 2. Once again, the method of obtaining the polymers claimed in claims 4 and 5 is immaterial to the patentability of the claimed product as long as the claimed product is identical to the product disclosed in the reference. The product disclosed in the reference and described by the formula in

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column 2 along with definitions of R and X fully correspond to the benzoxazole polymers claimed in claims 1-6.

The inventions as claimed in claims 1-6 is, therefore, fully anticipated by Dang.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,498,784 to Arnold et al., (hereinafter "Arnold").

Arnold discloses polybenzoxazoles having repeat units represented by the formula disclosed in line 50 of column 2. The disclosed formula fully corresponds to the polymers claimed in claims 1-5. (See applicable arguments regarding the process steps in claims 4 and 5 above)

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-322929 to Toyobo Co LTD., (hereinafter "Toyobo").

Toyobo discloses resins comprising polybenzoxazoles represented by the formula I. The Z atom is disclosed in the reference as either sulfur or oxygen. See abstract. Among suitable Ar tetravalent groups, groups of the formula Ar'-X-Ar' are disclosed, for example, in [0009], and hexafluoropropylene is listed as a suitable X group. (See applicable arguments regarding the process steps in claims 4 and 5 above)

Therefore, the invention as claimed in claims 1-6 is fully anticipated by the Toyobo reference.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-290374 to Central Glass Co., Ltd., (hereinafter "Central Glass").

Central Glass discloses resins comprising polybenzoxazoles represented by the formula I, wherein X represents a tetravalent group, see abstract. The compounds

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represented by formula I fully correspond to the polybenzazoles claimed in claims 1-5. Also note illustrative compound Formula 16, which illustrates fluorinated compound that fully corresponds to the claimed polybenzoxazoles. Applicants should note that the resins claimed in claims 4 and 5 are claimed in the "product-by-process" format, and process for obtaining the claimed product is irrelevant to the patentability of the claimed product so long as the claimed product is identical to the product disclosed in the reference. In the instant case, the products disclosed in the above-mentioned illustrative examples are identical to the product claimed in claims 4 and 5.

Therefore, the invention as claimed in claims 1-5 is fully anticipated by the Central Glass.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of the following references: Satio, Dang, Arnold, Toyobo, or Central Glass.

The disclosure of each of the cited references is discussed above. None of the references expressly discloses the properties claimed in claims 8-10, i.e., optical

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transmission factor, refractive index or birefringence. However, it is reasonable believed that the disclosed resins inherently exhibit the claimed properties because the disclosed resins are identical in their chemical structures to the resins claimed in claims 1-6. Under the authority of *In re Spada*, 911 F.2d 705,709, "products of identical chemical composition can not have mutually exclusive properties." The burden is shifted to the applicants to provide factual evidence to the contrary.

Claim Rejections - 35 USC § 103

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Central Glass.

The disclosure of the Central Glass reference is discussed above. The reference further explicitly teaches that the polymers of the invention are suitable for various applications in the field of electric, electronic and optical components. As suitable for optical applications, the specific applications claimed in claims 11-13 for the polymers disclosed by Central Glass would have been obvious, since the claimed applications/optical parts are commonly made such optical polymers. This position is further supported by the disclosure in the background of the instant application disclosing that similar polybenzoxazoles are known to be used for various optical applications. Therefore, the invention as claimed would have been obvious from the disclosure of the above cited reference.

Applicants should note that since the instant application was filed as a continuation of PCT/JP02/07545, and not a national stage of the PCT application, the

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ISR referenced in the IDS dated 1-26-2004 is not available for the Examiner. Thus, the Japanese references submitted without translation were not considered. All other non-English documents were only considered to the extent of the English translations (abstracts) that were provided to the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Irina S. Zemel
Examiner
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